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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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| 08/657,750 | 05/30/96 | MADNICK | S MIT-058 |

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EXAMINER

DAVIS JR, W

ART UNIT

PAPER NUMBER

2783

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DATE MAILED:

02/10/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

| | |
|-------------------------------|--------------------------------|
| Application No. 08/657,750 | Applicant(s) Madnick et al. |
| Examiner W. Davis | Group Art Unit 2783 |

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- Responsive to communication(s) filed on 12/17/98.
- This action is **FINAL**.
- Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- Claim(s) 1-38 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- Claim(s) _____ is/are allowed.
- Claim(s) 1-38 is/are rejected.
- Claim(s) _____ is/are objected to.
- Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The proposed drawing correction, filed on _____ is approved disapproved.
- The drawing(s) filed on _____ is/are objected to by the Examiner.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- All Some* None of the CERTIFIED copies of the priority documents have been received.
- received in Application No. (Series Code/Serial Number) _____.
- received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Attachment(s)

- Information Disclosure Statement(s), PTO-1449, Paper No(s). _____ Interview Summary, PTO-413
- Notice of References Cited, PTO-892 Notice of Informal Patent Application, PTO-152
- Notice of Draftsperson's Patent Drawing Review, PTO-948 Other _____

Office Action Summary

Art Unit: 2783

1. The request filed on 12/17/98 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 08/657,750 is acceptable and a CPA has been established. An action on the CPA follows.

2. Claims 1-38 are pending in the application.

3. The sections of Title 35, U.S. Code which are missing can be found in an earlier Office Action.

4. Claims 1-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adair et al. (Patent #5,416,917) in view of Cohen et al. (Patent #5,590,319) and Noble et al. (Patent #5,634,053).

As to claims 1 and 14, Adair discloses a system comprising a request translator for translating into a second data context (267, fig.5; col.13, line 33, et seq.), and a data translator for translating received data into the data context associated with the request (279, fig.5; col.13, line 52, et seq.). Adair does not specifically disclose the request translator translating a request into a query. Cohen discloses the translation of a request into a query (col.12, line 52, et seq.). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Cohen's query generation into the Adair system because such is necessary for the accessing of the data from the database of Adair. Adair also does not

Art Unit: 2783

explicitly show that the data contexts are semantic data contexts. Noble teaches a system in which translators can translate from one semantic data context into a second semantic data context (col.7, lines 24-34 : as explained by the Applicant on page 5 of the response, "an associated semantic data context is the set of assumptions made by a data source or receiver regarding the meaning of data, e.g., the units in which the data is stored." The conversions performed by Noble (i.e. converting meters to miles) are sufficient to teach the claimed limitation). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Noble into Adair because the translators of Noble would enable the system of Adair to provide the true integration of heterogenous databases, which is a primary goal of Noble.

As to claims 2,15,27, Adair discloses the request being received by the request translator (265, fig.5).

As to claims 3,16,28, Adair discloses generation of the request (including, *inter alia*, 260, fig.5).

As to claims 4-5,17-18,29-30, Adair does not specifically disclose the request translator determining at least one heterogeneous data source. Cohen discloses determining from the request (or ontology) the at least one heterogeneous data source

Art Unit: 2783

(col.13, line 64, et seq. and col.3, lines 37-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include Cohen's determination step and parallel database engines in the Adair system because such would increase the throughput of the Adair system by allowing for parallel processing of the database request.

As to claims 6,19,31, Adair discloses the detection of a difference in context (col.4, line 61, et seq.).

As to claims 7,20,32, Adair discloses the conversion being accomplished by a pre-defined function (this would relate to the conversion process - col.13, line 33, et seq.).

As to claims 8,10,21,33,35, Adair does not specifically disclose optimizing the query. Noble discloses an optimizer (38, fig.2) that is used to optimize the query (col.8, line 51 - col.9, line 6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the query optimization of Noble into the Adair system because such would increase the throughput of the Adair system by inherently allowing for faster processing of queries.

As to claims 9,22,34, Adair does not explicitly show a query transmitter. Noble teaches a query transmitter which queries at least one of the heterogeneous data sources using the query (DIM 20, fig.1; col.16, lines 54-61). It would have been obvious to

Art Unit: 2783

one of ordinary skill in the art at the time the invention was made to incorporate the query transmitter of Noble into the system of Adair because such would increase the throughput of the Adair system by allowing for parallel processing of the database request. Furthermore, the completeness of a given search is increased with such a configuration, which is a goal of Noble.

As to claims 11-12, 23-24, 36-37, Adair does not specifically disclose the query being separated into sub-queries which are transmitted to different data sources. Cohen discloses the query being separated into sub-queries which are transmitted to different data sources (col.10, line 45, et seq. and col.13, line 64, et seq.). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include Cohen's query splitter and parallel database engines in the Adair system because such would increase the throughput of the Adair system by allowing for parallel processing of the database request.

As to claims 13, 25, 38, Adair discloses the conversion by the data translator being performed by a pre-defined function (this would relate to the conversion process - 279, fig.5).

As to claim 26, Adair does not specifically disclose the translators being computer-readable program means. Noble discloses translators that are implemented using computer-readable program means (col.7, lines 45-47). It would have been

Art Unit: 2783

obvious to one of ordinary skill in the art at the time the invention was made to implement the translators of Adair in either hardware or software as was done in Noble because the utilization of hardware or software is simply a design choice.

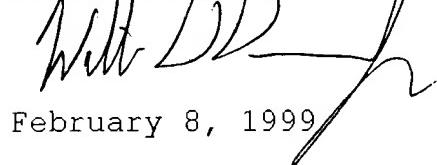
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Demers et al. (Patent #5,278,978) discloses a system that changes semantics depending on the database.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter Davis whose telephone number is (703) 305-9670.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Walter D. Davis Jr.



February 8, 1999